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Randolph S. McCarraher, PMP

Project Management and Project Controls

Technical Qualifications

- Member, Project Management Institute (PMI)
- Certified Project Management Professional (PMP)
- Certified Bechtel Project Manager Level I

Education

- Certificate, Electronics, Western Montgomery County Technical School
- AAS, Construction Management, Frederick Community College
- Certificate, International Business Management, Georgetown University

Randolph (Randy) McCarraher has over 35 years of experience in the EPC/EPCM industry in positions in field engineering, contracts, project controls, project management, and business development. Randy has a global view of what it takes to complete a successful project, as his experience includes working in North and South America, Australia, Europe, and the Asia Pacific region as well as India, and it includes projects in the Power (fossil and nuclear); Oil, Gas and Chemical; Government Services; Telecommunications; Mining & Metals; and Industrial business lines. He is a manager who can get the tough jobs done due to his strong technical skills, his ability to teach and mentor young employees, and his performance-based leadership skills.

Project Development Manager, Nuclear Power

2012–Present: In his current role, Randy is responsible for identifying, evaluating, and recommending prospective new work in the nuclear business line including strategic market development and penetration. He develops strategy and directs preparation of proposals and presentations for new business opportunities and establishes and maintains effective customer relationships. In addition to these duties, he has been deployed to provide project management leadership at two EPU outages and has led teams to perform project management/construction readiness reviews at Hinkley Point C (UK), Bruce Power (Canada), and Olkiluoto 3 (Finland).

Project Manager, UniStar Nuclear Project

2011–2012: As Project Manager, Randy was responsible for screening all cost and schedule optimization opportunities and overseeing preparation of the final report and presentations to UniStar/EDF senior management on project status of this U.S. EPR project.

Deputy Project Director, Turkey Point, St. Lucie, and Point Beach EPU Projects

2010–2011: Randy assisted the project director in managing the EPU projects across the three jobsite locations. His specific responsibilities included leading the effort to re-baseline both the St. Lucie and Point Beach projects, participate in contract negotiations for implementing a "target price" commercial structure, and leading implementation of the AST/CREFS modification during the Point Beach outage in early 2011.

Project Manager for Services, Calvert Cliffs Unit 3 Project

2009–2010: As Project Manager, Randy was responsible for the management of all work other than the engineering detailed design activities in support of developing the Calvert Cliffs U.S. EPR project. His responsibilities included developing and implementing work processes, procedures, and control tools; monthly reporting to monitor and control the work; daily coordination with the consortium partner and client; and providing project status to both internal and external customers.

Business Manager, Elm Road Generating Station

2006–2008: As Business Manager, Randy managed all commercial systems including cost, schedule, accounting, and prime contract administration. He provided technical direction to project controls personnel in the home office and field. He interfaced daily with team members to ensure

compliance with the project execution strategy and objectives and provided status information to project team members and senior management. He also interfaced with the owner and subcontractors and assisted the project manager with other duties as assigned.

Assistant Project Manager, Worsley Alumina Project

2005–2006: Randy was responsible for managing the project from the proposal stage through execution and closeout activities. His specific responsibilities included providing oversight and direction to the Contracts, Procurement, IS&T, Administration, Office Services, Accounting, Project Controls, Prime Contracts Administration, and Human Resources departments.

Business Support Manager, Mining & Metals

2004–2005: Randy was responsible for reviewing the Mining & Metals Global Business Unit (GBU) business management systems and upgrading them as necessary to facilitate standard reporting across the GBU. He conceptualized and developed a commercial database allowing comparison of historical and active projects, and he provided support to the proposal development process.

Project Controls Functional Manager, Bechtel Telecommunications and Industrial

2002–2004: Randy provided functional oversight for projects in North America to ensure correct application of cost/schedule control tools and accurate analysis. He also administered personnel functions for project controls employees and interfaced with senior management to ensure that project needs were being met and future needs anticipated.

Project Controls Functional Manager, Bechtel Power

2000–2002: Randy provided functional oversight for fossil projects in North America to ensure correct application of cost/schedule control tools and accurate analysis. He administered personnel functions for project controls employees and interfaced with global and regional business unit managers as well as project managers to ensure continuous fulfillment of project needs.

Business Manager, Hsin Tao Combined Cycle Project

1999–2000: Randy was responsible for all cost- and schedule-related functions, prime/subcontract administration, and commercial operations. He interfaced with team members to ensure compliance with the project execution strategy and objectives, provided status information to team members and senior management, interfaced with the owner/contractors, and assisted the project manager with other duties as assigned.

Project Controls Supervisor, Nuclear OMV Core Team, TermoEmcali, Dabhol, and Perryman Projects

1993–1999: On the Nuclear OMV Core Team, Randy's responsibilities included analyzing utility and industry data to identify potential business opportunities, performing detailed financial analysis of target facility operating budgets, and developing future budget models. He supported business development by developing oral and visual presentation material.

On the TermoEmcali project, Randy supported project development efforts, performing bid package analysis for Power Island and construction services contracts.

On the Dabhol project, Randy supervised day-to-day operations and provided technical direction as required. He ensured accuracy and timeliness of project reports and provided special reports/studies to management.

On the Perryman Unit 51 project, Randy monitored the budgets, prepared monthly management reports, developed trend and scope change estimates, and supervised startup/closeout activities.

Project Planner/Cost & Scheduling Engineer/System Planner, Hershey Foods; Chevron/Bechtel Alliance Philadelphia Refinery, Lipari Landfill Superfund, Limerick, and Peach Bottom Projects

1988–1993: Randy's responsibilities included providing cost and schedule support, developing and issuing weekly and monthly management reports, developing budgets and cash flows, estimating lump sum contracts, preparing quarterly financial updates, and supporting business development.

Electrical Field Engineer, Limerick, Pilgrim, Palo Verde, and Byron Projects

1979–1988: Randy was responsible for reviewing drawings, compiling and maintaining open items punch lists, implementing design change packages during outages, reviewing startup work authorizations for work scope and material requirements, distributing work, and resolving field engineering problems.

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Edward (Ed) A. Sherow

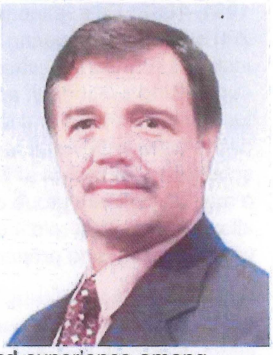
Design and Licensing

Technical Qualifications

- Six Sigma Champion

Education

- BS, Electrical Engineering, Rensselaer Polytechnic Institute



Ed Sherow has over 42 years of engineering experience in the nuclear and fossil power industry, focusing on all phases of power plant activities, with specific background in electrical. He has worked on numerous projects throughout his career including Calvert Cliffs, Grand Gulf, Turkey Point, Brown's Ferry Units 1 and 3, and U.S. EPR.

Engineering Manager, Nuclear Projects

2012–Present: Ed Sherow is currently responsible for functional engineering management oversight and development and execution of multiple nuclear projects. His responsibilities include assistance and review of project estimates/schedules, project setup and staffing review, quality, schedule, and budget performance monitoring, project-specific process and procedural approvals, and coordination of lessons learned and experience among multiple nuclear projects.

Nuclear Project Engineering Manager/Project Engineer, U.S. EPR, UniStar Projects

2005–2011: Ed managed the detailed design for the U.S. EPR 1,600 MW nuclear plant with the first plant targeted for Calvert Cliffs. He also managed the work associated with supporting the design certification support to AREVA for the U.S. EPR nuclear plant, and he managed the development and support to UniStar (Constellation) for the combined operating license application for Calvert Cliffs nuclear plant Unit 3.

Fossil Project Engineer, Fossil Technology Group

2005–2005: Ed managed the development and design of fossil generation plants. His role involved supervision or coordination of multidisciplinary engineers, technical specialists, estimators, and Business Development to develop practicable proposals for fossil power projects. In this role he coordinated closely with clients.

Task Integration Manager/Metrics Manager, Browns Ferry Unit 1 Restart Project

2003–2005: Ed was responsible for the overall execution and quality of work related to metrics reporting, integrated task equipment list programming and data integrity, and the training program.

Assistant Project Manager/Project Engineer, Mountainview Project

2001–2003: As Assistant Project Manager, Ed's responsibilities included supervising execution planning, contract administration of the EPC agreement, contract administration of major equipment (including the GE Power Island subcontract), contract compliance, and championing other specific areas of critical concern for project success. He was also responsible for interface with the owner's project manager and for monitoring cost and schedule progress. As project engineer, he was responsible for the overall engineering of the project, including technical correctness, compliance with codes, optimization of design/installation costs, and interface with suppliers and the owner.

Fossil Project Engineer, Fossil Technology Group

1999–2001: Ed managed the development and design of fossil generation plants. His role involved supervision or coordination of multidisciplinary engineers, technical specialists, estimators, and Business Development to provide proposals that realistically account for the development aspects of fossil power projects. Ed also completed a 7-month assignment at the Red Hills Generation Facility, a 440 MW CFB in Mississippi, as the Project Field Engineer responsible for all field engineering.

Multi Project Acquisition Group (MPAG) Manager, MPAG

1996–1999: Ed managed the electrical MPAG, an integrated cross-functional team of engineering and procurement personnel implementing the Bechtel supply chain strategy. His efforts focused on optimizing and managing cost and schedule in the delivery of equipment. Key items included interfacing power projects and suppliers, implementing standard products, making process improvements, and negotiating supplier agreements. During this period, he managed the combined Electrical/Control Systems MPAG until it was separated into two groups.

Project Manager, Substation/Transmission Engineering

1993–1996: In this assignment, Ed was responsible for commercial and technical operations of the Gaithersburg Substation/Transmission Engineering (STE) Group. The STE Group varied from 20 to 30 multidisciplinary engineers conducting switchyard and transmission line work directly for utilities while also supporting Bechtel New Generation projects.

Project Engineer, Browns Ferry Nuclear Unit 3

1991–1993: Ed's responsibilities included overseeing the electrical discipline consisting of 135 to 200 engineers preparing design modifications for upgrading Unit 3 to allow restart. His efforts included monitoring schedules for all activities; monitoring costs; interfacing with the client; supervising personnel; and preparing, evaluating, and approving proposals. He was also responsible for special projects and later the Design Change Notice (DCN) Production Group. Special projects duties included overall responsibility for the Procurement Engineering Group and engineering scheduling for restart of Browns Ferry Unit 3. For the DCN Production Group, he was responsible for a multidisciplinary group of 250 engineers preparing design modifications for upgrade of Unit 3 to allow restart. That role included monitoring schedules for all activities; monitoring costs; interfacing with the client; and preparing, evaluating, and approving DCN modification packages.

Project Engineer/Group Supervisor, Florida Power and Light (FPL) Projects

1986–1991: Ed was responsible for managing FPL's drawing update efforts for Turkey Point Units 3 and 4. His work included approving drawings as client representative, monitoring and controlling work output, reviewing indicators, assigning work priorities for up to 60 people, and maintaining budgets/schedules. He was also responsible for managing the design fossil operating plant services and the electrical and I&C work.

Group Supervisor, Electrical/Control Systems Group, Operating Services

1984–1986: Ed's responsibilities included supervising electrical and instrumentation and controls (I&C) work at various oporating plants. He approved drawings, calculations, and installation packages; prepared and evaluated proposals, coordinated with vendors and the client, monitored schedules and budgets, and oversaw the electrical/control systems work of up to 20 engineers. Typical projects included addition of a precipitator for BG&E H.A. Wagner Unit 3, addition of a dry cask spent fuel storage, a radiation monitoring upgrade, and a facilities renovation for Virginia Power's North Anna and Surry Nuclear Stations. In addition, he managed installation of a natural gas warm-up for BG&E H.A. Wagner Unit 2, an upgrade of coal handling and sampling facilities for Virginia Power's Mt. Storm Plant, a conversion to natural gas for FPL's Marlin plants, and use of coal water slurry as an alternate fuel for the Pfizer plant at Groton.

Group Supervisor, Electrical/Control Systems Group, Grand Gulf Units 1 and 2

1976–1984: In this assignment, Ed's responsibilities included approving drawings, calculations, and installation packages, preparing/evaluating proposals, coordinating with vendors/client, monitoring schedules/budgets, and supervising electrical and I&C work.

Electrical Field Engineer, Calvert Cliffs Units 1 & 2 and Grand Gulf Unit 1

1972–1980: Ed was responsible for installation and turnover to Startup of various plant systems. His duties included verifying system scope, walking down the system to ensure construction conformance to the design, interfacing with Design Engineering, preparing punch lists for outstanding items, and releasing systems to Startup. He was also responsible for cable installation. His other duties included verifying routing (both by drawing review and walkdowns), correcting routings, cable inspections, initiating termination installation, cable termination inspection, documentation reviews, and problem resolution.

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Stephen D. Routh

Design and Licensing

Steve Routh, Senior Project Manager, has over 30 years of nuclear experience, has supported new nuclear generation efforts at various sites since 2001, and is the manager of Bechtel's New Nuclear Generation and Fukushima Response projects. He is recognized as an industry expert in nuclear engineering, safety, and licensing, and is an active member of NEI and EPRI new generation task forces and working groups.

Technical Qualifications

- Registered Professional Engineer, Virginia
- Six Sigma Champion

Education

- MBA, Finance, Mount St. Mary's College
- MEng, Nuclear Engineering, Pennsylvania State University
- BS, Nuclear Engineering, Pennsylvania State University

Memberships

- Member, American Nuclear Society
- Member, ANS SMR Task Force
- Member, EPRI Advanced Nuclear Technology Group
- Member, NEI COL Task Force
- Member, NEI Seismic Issues Task Force

Manager, Nuclear Engineering Services

2013–Present: Steve is responsible for Bechtel's engineering and licensing services projects including support of operating plants, new nuclear generation, Fukushima response projects, and proposal preparation.

Manager of New Nuclear Generation and Fukushima Response Projects

2009–Present: Steve is responsible for Bechtel's new nuclear generation and Fukushima response projects including:

- North Anna COL and Owner's Engineer (APWR/ESBWR)
- Turkey Point COL (AP1000)
- Calvert Cliffs COL (USEPR)
- AREVA DCD (USEPR)
- Clinch River Construction Permit Application (mPower)
- Dominion, South Texas, Watts Bar, and Constellation Fukushima response projects

He also managed Bechtel's overall Fukushima response efforts including industry representation, development of approaches and capabilities, and proposal preparation.

Project Manager

2001–2008: As Manager of the ESP/COL Technology Group, Steve provided engineering and licensing oversight of Bechtel's new generation projects (Calvert Cliffs, North Anna, South Texas, Vogtle, V.C. Summer, Turkey Point, and Victoria County). He was also the project manager for the North Anna ESP project, North Anna COL and Site Engineering project, and the Turkey Point COL project.

Manager of Regulatory Affairs

1999–2001: Steve was responsible for the licensing and regulatory oversight of Bechtel nuclear power projects (including Connecticut Yankee decommissioning, new nuclear generation, steam generator replacements, and operating plant services) and SERCH, Bechtel's generic licensing service.

Licensing and Safety Analysis Supervisor, U. S. Enrichment Corporation

1995–1999: Steve managed the preparation of the upgraded Safety Analysis Reports for the Paducah and Portsmouth gaseous diffusion plants and managed activities for the project team including subcontractor support. He also provided detailed cost and schedule control and technical

review of revised analyses, responded to NRC questions, and interfaced with NRC and DOE personnel. He also established regulatory processes for NRC oversight.

Project Engineer for the North Anna 1, North Anna 2, and Ginna SGR Projects

1991–1995: Steve's duties included managing mechanical, materials, civil, nuclear, and licensing engineering activities in support of the projects, including evaluation of alternative approaches, conceptual and detailed engineering, constructability reviews, subcontractor control, and client interface.

Assistant Chief Nuclear Engineer

1987–1991: Steve provided nuclear licensing support to operating plant services projects in the areas of design change packages, operability and safety evaluations, justification for continued operations, Part 21s, and NRC interaction, and he assisted in the administration of the nuclear department and salary planning.

Nuclear Licensing Supervisor

1983–1987: Steve prepared the safety analysis report, environmental report, and license documents for the Surry plant dry cask independent spent fuel storage installation (the first one licensed in the United States), and he supported several other operating plant services and SGR projects.

Licensing Engineer/Deputy Supervisor, Grand Gulf Project

1980–1982: Steve supported the licensing effort for the operating license, preparation of the FSAR, and development of the environmental report and the technical specifications. He supported NRC question responses and public hearings as well as NRC safety evaluation report review and SER open item responses.